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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,129	06/30/2003	Atanu Guchhait	P-5749-US	2998

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EITAN, PEARL, LATZER & COHEN ZEDEK LLP  
10 ROCKEFELLER PLAZA, SUITE 1001  
NEW YORK, NY 10020

EXAMINER
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TRAN, KHAI

ART UNIT	PAPER NUMBER
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2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/25/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/608,129

Applicant(s)

GUCHHAIT, ATANU

Examiner

KHAI TRAN

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11 and 13-40 is/are rejected.
- 7) ☒ Claim(s) 9, 10 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/30/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-4, 13, 15, 16, 21, 28, 34, 36-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Amerga et al (U.S. Pat. 7,095,813).

Regarding claim 1, Amerga et al disclose an apparatus comprising: a computing unit for computing a set of slope-normalized operator values corresponding to a set of respective signal samples (see Figures 3-6, the waveform signals 142, 144, 146 have slope (peaks 152, 154) corresponding to a set of signal samples (sample points shown on the waveform signals 142, 144, 146, see Col. 7, lines 17-65).

Regarding claim 3, Amerga et al disclose wherein the set of slope-normalized operator values are substantially independent of a relationship between values of a corresponding pair of signal samples in the set of signal samples (see Figure 5).

Regarding claim 4, Amerga et al disclose wherein the set of slope-normalized operator values is generally proportional to the amplitude of the set of signal samples, respectively (see Figure 5).

Claim 13 is similar to claim 1, Amerga et al also disclose a Global system for mobilizing transceiver able to send and receive signal (col. 1, line 53 to col. 2, line 3). Therefore, claim 13 is rejected under a similar rationale.

Claims 15, 16 are similar to claims 3-4. Therefore, claims 15-16 are rejected under a similar rationale.

Claim 21 is similar to claims 1 and 11. Therefore, claim 21 is rejected under a similar rationale.

Claim 28 is similar to claims 1 and 11. Therefore, claim 28 is rejected under a similar rationale.

Regarding claim 34 is similar to claim 1. Amerga et al further disclose a first communication device for transmitting a signal through a communication channel; and a second communication device for receiving the signal (see Figure 1). Therefore, claim 34 is rejected under a similar rationale.

Claims 36-37 are similar to claims 3-4. Therefore, claims 36-37 are rejected under a similar rationale.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 5-6, 7, 8, 11, 17-20, 21, 23-27, 30-33, 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amerga et al (U.S. Pat. 7,095,813) in view of Royle et al (U.S. Pat. 7,184,951).

Regarding claim 5, Amerga et al fail to disclose the apparatus further comprising an up-sampler to calculate values of the set of signal samples based on a set of received signals.

Royle et al disclose an up sampler 112 as shown in Figure 2 for up sampling amplitude signal (col. 5, lines 14-25). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the up-sampler for up-sampling values of the set of signal samples based on received signals as shown in Figure 2 as taught Royle into the teachings of Amerga et al. The motivation would increase data rate as illustrated by Royle (col. 5, lines 14-25).

Regarding claim 6, Royle et al disclose wherein the up-sampler comprising an interpolator (116).

Regarding claim 7, Royle et al disclose wherein the set of signal samples has a sampling resolution equal to at least the sampling resolution of the set of received signals (col. 5, lines 26-39).

Regarding claim 8, Royle et al further disclose a signal detector for detecting a maximum value of the received signals (col. 5, lines 14-25).

Regarding claim 11, Royle et al disclose a path selector for selecting one or more dominant paths (col. 5, lines 14-25).

Claims 17-20 are similar to claims 5-7, 11. Therefore, claims 17-20 are rejected under a similar rationale.

Claims 23-27 are similar to claims 1-5, 7-8. Therefore, claims 23-27 are rejected under a similar rationale.

Claims 30-33 are similar to claims 3-5, 7-8. Therefore, claims 30-33 are rejected under a similar rationale.

Claims 38-40 are similar to claims 5, 8, 11. Therefore, claims 38-40 are rejected under a similar rationale.

***Claim Rejections - 35 USC § 103***

6. Claim 2, 14, 22, 29, 35 rejected under 35 U.S.C. 103(a) as being unpatentable over Amerga et al (U.S. Pat. 7,095,813) in view of Hamila et al (cited by the Applicant as "Novel Technique for closely-spaced multipath delay estimation in DS-CDMA systems).

Regarding claim 2, Amerga et al fail to disclose wherein the set of slope-normalized operator values comprising slope-normalized Kaiser operator values.

Hamila et al disclose the set of slope-normalized operator values comprising slope-normalized Kaiser operator values (see pages 10-12). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a Teager-Kaiser operator to estimate multi-path delay estimation as taught by Hamila et al into the teachings of Amerga et al for measuring the real physical energy of the system.

Claims 14, 22, 29, 35 are similar to claim 2. Therefore, claims 14, 22, 29, 35 are rejected under a similar rationale.

#### ***Allowable Subject Matter***

7. Claims 9-10, 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Baltersee et al (US 2001/0014114 A1) discloses an adaptive code tracking receiver for direct sequence code division multiple access (CDMA).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI TRAN whose telephone number is (571) 272-3019. The examiner can normally be reached on 7:00AM - 4:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JAY PATEL can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



KHAI TRAN  
Primary Examiner  
Art Unit 2611

KT  
April 23, 2007